



## Chile's resource-based export boom and its outcomes: Regional specialization, export stability and economic growth



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### ABSTRACT

In the resource-based, export-driven and steadily growing economy of Chile, neither the revenues nor the negative effects of exports are distributed evenly in space. Accordingly, export specialization patterns in Chile must be analyzed on a regional scale to understand the relationships between export diversification, economic growth and dependency. We analyze how the degree of export specialization among Chile's regions is linked to regional GDP growth and to regional export growth. Moreover, by taking a long-term perspective, we can evaluate these relationships during a phase of strong national currency and in the context of an external "shock". Our analysis applies the theoretical frameworks of the 'resource curse' and 'Dutch disease' on a regional geographical scale.

We identify a tendency towards increased export specialization that is linked in part to high volatility of both GDP growth and export growth. There is also evidence of a growing dependence of Chilean regional economies on export trade. The 1991–2010 period covered by the analysis provides evidence of how external factors, such as high commodity prices and low US dollar exchange rates, foster specialization and weaken non-mineral exports in relative terms, especially in the highly specialized mineral-based regions of Chile. This result is consistent with the application of the Dutch disease thesis on a regional scale. Our analysis also shows the negative short-term effect of an external demand crisis on the mineral export sector and on highly specialized regions. The article concludes by emphasizing the need for a regional perspective on exports and on the effects of external factors within the country.

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### Introduction: Chile as an export-driven, open economy

Two major factors have shaped the specific features of Chile's current export dynamic: its noteworthy economic development since the 1990s, which was driven by booms in the mining, fisheries, agriculture and forestry industries, and the implementation of neoliberal policies dating back to Pinochet's dictatorship in the 1970s and 1980s (Gutiérrez and Ferrantino, 1997). Much of the export boom that has taken place over the last three decades is due primarily to the introduction of liberalization policies, both in unilateral terms and with respect to the development of multi-lateralism and exchange rate policies that favor exports and shorter production chains (Ffrench-Davis, 2002). As a result of these policies, Chile has become an extremely open economy and is heavily involved in global markets. As shown in Table 1, the

share of import and export activities in Chile's national GDP is far above the respective values for the United States and other OECD countries. International trade has undoubtedly been a key driver of Chile's economic growth and has helped to make Chile one of the most economically prosperous countries in Latin America. In addition, Chile has successfully reduced poverty during the last 20 years, although the extreme income disparities in Chile have scarcely changed, and the outcomes of poverty reduction must be carefully evaluated (see Murray et al., 2009).

Overall economic trends in Chile should thus be interpreted in the context of the global market, including trends that occur during periods of crisis. Since the 1980s, there has been a considerable increase in export volume linked to renewable natural resource industries, e.g., the wine, fruit, salmon, and cellulose sectors (Gwynne, 1999: 214). The increased volume of exports from Chile's agricultural industries has led to more regional heterogeneity in terms of exports, due to the traditional diversification of Chile's agricultural exports (Foster and Jara, 2005). The importance of export activity in Chile's national GDP has increased significantly

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**Table 1**  
General macroeconomic context: Chile compared to selected countries. Source: Author's calculations based on data from [World Bank, 2013](#).

Country/ region	GDP per Capita (US-\$ 2011)	GDP Growth (% 1990–2010)	Exports (% GDP 2010)	Imports (% GDP 2010)
Chile	14.394	5.8	38	35
Latin America	9.754	3.4	23	24
OECD	37.029	1.3	25	25
USA	48.442	1.5	13	16
China	5.445	15.6	30	27

over the last 20 years following the return to democracy, especially between 2000 and 2007 ([World Bank, 2013](#)). Moreover, although the importance of copper as a raw material is well known, its current dominance of Chilean exports is a relatively recent phenomenon. In 2004, the sum of copper ore and processed copper exports accounted for more than 50% of Chile's total exports (calculated based on Aduanas Chile).

Consequently, there is a need to evaluate the attributes of this trend in the medium and long terms. In this regard, the recent boom in the mining industry has led to the increased influence of mining activities and related services on regional economic dynamics. However, this influence varies considerably by region; hence, it is necessary to expand the discussions of dependence on and specialization in foreign trade by examining the regional impacts of export strategies.

The present paper is structured in six sections. Following this introduction, a brief review of the literature is presented in section two, producing questions and hypotheses for discussion. Methodology and data sources are presented in section three. Section four presents the main results in the context of four different topics. Section five discusses these findings, and finally, concluding remarks are made in section six.

## Literature review

Export specialization in a few commodities and natural resource-based goods reflects the typical form of the early, commodity-based “international division of labor” between industrial countries and their suppliers of natural resources and primary products ([Frobel et al., 1982](#)). In Latin America, the relationship between development and raw material exports has been discussed critically by scholars and politicians and has frequently been related to ‘dependency theory’ and the ‘structuralism’ concept advanced by UN ECLAC, also known as the Prebisch-Singer thesis (for a review, see [Bielschowsky, 2009](#)). This latter theory was an important basis for the promotion of import-substituting industrialization in Latin American countries starting in the 1930s and 1940s ([Prebisch, 1986](#); [Kay, 1989](#); [Dicken, 2011](#)). Nevertheless, Latin American exports remain focused on minerals and energy, especially as a result of booming Chinese demand. This is viewed as a tendency towards the re-commodification of Latin America's export structures ([Rosales and Kuwayama, 2012](#)).

Global production structures and the resulting economic power relations that they create have been questioned in terms of their effects on the economic development of exporting countries. In particular, exporting countries are greatly dependent on and economically vulnerable to external decisions, especially in the context of increasing globalization and global capitalism. These issues remain major concerns for economic geography, even at the beginning of the new millennium ([Mendez, 2004](#)). [Collier \(2008\)](#) discussed the primary problems of and impediments to economic development in resource-rich countries, and the “natural resource curse” is featured prominently in his explanation of the problems that contribute to the lack of socio-economic development in these areas. Despite

the economic and technological progress that has occurred over the past sixty years, and in particular since 2000 in Latin America, the relationship between extractive activities and economic development remains a valid and highly relevant topic of discussion ([Hogan and Sturzenberger, 2010](#)), although the discussion may have reached a certain “analytical stalemate” ([Bridge, 2008](#): 390).

The concept of the “natural resource curse” (also known as the “resource trap”) addresses the dependence of developing countries on their natural resources and the relationship between exports of those resources and economic growth ([Gelb et al., 1988](#); [Davis, 1995](#); [Sachs and Warner, 1995, 2001](#); [Ross, 1999](#); [Auty, 2001](#); [Collier, 2008](#)). It was argued originally that countries characterized by resource abundance were more likely to be “underperformers” in terms of economic growth than resource-poor countries. The theoretical basis of the “curse” theory can be summarized by the following four principal explanations for the concept ([Ross, 1999](#)): (1) declining real prices for raw materials, which are reflected in worsening “terms of trade” for commodities, according to the Prebisch-Singer thesis; (2) the high volatility of international commodity markets; (3) weak linkages between the mining sector and other economic sectors in exporting countries; and (4) ‘Dutch disease’ ([Corden and Neary, 1982](#); [Corden, 1984](#); [Pereira et al., 2009](#)). ‘Dutch disease’ is of special interest here because it provides a detailed explanation of how successful commodity exports may affect industrial production via the mechanism of ‘crowding out’, which refers to the shifting of production factors into activities that promise higher rents (i.e., commodity extraction and exports). As such, successful commodity exports may ultimately damage other export sectors (non-commodity tradable goods) and local production and service sectors (“nontradable” goods; [Corden and Neary, 1982](#); [van Wijnbergen, 1984](#)). This effect is combined with the demand effect, which refers to increased national spending of resource rents. The demand effect is an especially intriguing aspect of the resource curse, because on the one hand it is an important element of the criticism of resource-rich countries (see argument number 3 above), but on the other hand it fuels consumption and inflation, which ultimately may damage national export-oriented industries. Furthermore, the Dutch disease thesis emphasizes the effect of commodity exports on the exchange rate of the local currency and the negative impact of a strong local currency on the competitiveness of national industrial and agricultural sectors ([Pereira et al., 2009](#), 9–10). For example, when international copper prices are high, an increasing inflow of US dollars is derived from copper exports, generating increased offers of US dollars and reducing the dollar's price in relation to Chile's local currency. However, the decreased value of the US dollar has a negative effect on the export activities of other sectors, e.g., agriculture, because it makes national exports more expensive on international markets.

The “resource curse” thesis started to gain popularity at the beginning of the 1990s ([Gelb et al., 1988 and Auty, 1993](#)), but its popularity increased significantly when Jeffrey Sachs and Andrew Warner ([Sachs and Warner, 1995](#)) demonstrated that, during the 1970–1990s, countries whose natural resource exports accounted for a high percentage of their respective gross domestic products (GDPs) grew more slowly than other countries. However, there was significant criticism of this study, and subsequent studies presented econometric evidence to show that the thesis held no general validity ([Brunnschweiler and Bulte, 2008](#); [van der Ploeg and Poelhekke, 2010](#); see also [Davis, 1995](#)). Nevertheless, some of these critics also suggested that although resource dependence has a positive impact on growth in stable economies, it has a negative effect on growth in unstable countries ([van der Ploeg and Poelhekke, 2010](#): 52).

Many features of this debate have changed recently as a result of the global boom in certain raw material prices at the beginning of the 21st century. In boom conditions, the primary concern becomes the country's dependence on export trade and what this

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